

Micrometer

The origin of Mitutoyo's trustworthy brand of small tool instruments

ABSOLUTE Digimatic Micrometers SERIES 227 — with Adjustable Measuring Force

MeasurLink¹ ENABLED
Data Management Software by Mitutoyo

- Digimatic micrometer dedicated to applications requiring a constant/low measuring force such as measuring wire, paper, and plastic/rubber parts.
- Ratchet mechanism in the thimble applies constant force to workpiece.
- Compact and easy to handle.
- Measuring force is adjustable (in steps) to suit various kinds of workpieces.
- High-accuracy measurement can be performed even by unskilled operators due to the repeatability of the automatically applied measuring force.
- Non-rotating spindle.
- Measuring faces: Carbide.
- In addition to standard specification, a non-rotating spindle type tooth thickness micrometer (refer to page B-35 for details) is also available.



227-201-20



227-205-20

SPECIFICATIONS

Metric

Order No.	Measuring force (N)	Range (mm)	Resolution (mm)	Maximum permissible error J_{MPE} (μ m)	Measuring force (N)	Accuracy of the selected measuring force* (N)	Repeatability of measuring force* (N)	Mass (g)
227-201-20	0.5 - 2.5 (adjustable)	0 - 15	0.001	± 2	0.5, 1.0, 1.5, 2.0, 2.5	$\pm (0.1 + \text{the selected measuring force}/10)$	within 0.1	300
227-203-20		15 - 30						380
227-205-20	2 - 10 (adjustable)	0 - 10						345
227-206-20		10 - 20			2, 4, 6, 8, 10	$\pm (0.4 + \text{the selected measuring force}/10)$	within 0.4	425
227-207-20		20 - 30						415

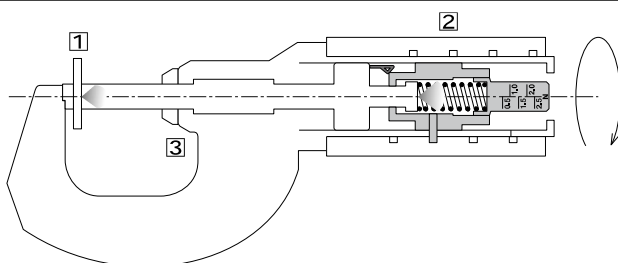
* These values are guaranteed when micrometer is used in a horizontal orientation (within ± 3 degrees)

Inch/Metric

Order No.	Measuring force (N)	Range (in)	Resolution	Maximum permissible error J_{MPE} (in)	Measuring force (N)	Accuracy of the selected measuring force* (N)	Repeatability of measuring force* (N)	Mass (g)
227-211-20	0.5 - 2.5 (adjustable)	0 - 0.6	0.00005 in/ 0.001 mm	± 0.0001	0.5, 1.0, 1.5, 2.0, 2.5	$\pm (0.1 + \text{the selected measuring force}/10)$	within 0.1	300
227-213-20		0.6 - 1.2						380
227-215-20	2 - 10 (adjustable)	0 - 0.4						345
227-216-20		0.4 - 0.8			2, 4, 6, 8, 10	$\pm (0.4 + \text{the selected measuring force}/10)$	within 0.4	425
227-217-20		0.8 - 1.2						415

* These values are guaranteed when micrometer is used in a horizontal orientation (within ± 3 degrees)

Constant-Measuring-Force Mechanism



- ① Measuring force is generated by the action of trapping a workpiece between the spindle face and the anvil.
- ② The constant-force unit applies the specified measuring force.
- ③ When the preset measuring force is reached, the count on the LCD is automatically held and the hold symbol appears.
(To cancel the hold, reverse the thimble more than 1/10 revolution and press the hold button.)

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Products equipped with the measurement data output function can be connected to the measurement data network system MeasurLink (refer to page A-5 for details).

ABSOLUTETM

Technical Data

- Flatness: 0.3 μ m/0.000012 in
- Parallelism: 2 μ m/0.00008 in
- Measurement posture: horizontal orientation only
(Recommended spindle inclination: within $\pm 3^\circ$)
- SR44 (1 pc.), **938882**, for initial operational checks (standard accessory)
- Battery life: Approx. 5 years under normal use
- Length standard: Electrostatic capacity absolute sensor
- Standard accessories: Reference bar, 1 pc.
(except for measuring range 0 to 15 mm (0 to 0.6 in)/ 0 to 10 mm (0 to 0.4 in) models)
Screwdriver (**210183**), 1 pc.

Functions

Adjustable measuring force mechanism
Origin point setting
Zero setting
Hold
Function Lock
Auto power off
Measurement data output
Error alarm

Optional Accessories

- Connecting cables
1 m: **05CZA662**
2 m: **05CZA663**
- USB Input Tool Direct
USB-ITN-B (2 m): **06AFM380B**
- Connecting cables for **U-WAVE-T**
160 mm: **02AZD790B**
For foot switch: **02AZE140B**
Refer to page A-27 for details.

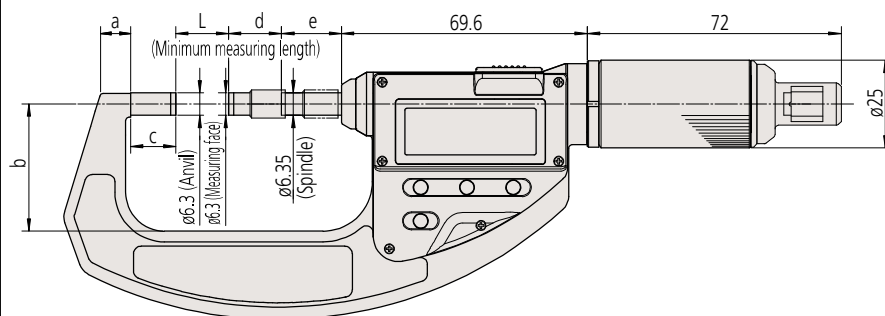
Adjustable Measuring Force

To preset the measuring force, adjust the measuring force setting scale on the thimble with the screwdriver supplied.



DIMENSIONS

Unit: mm



Range (mm)	L	a	b	c	d	e
0 - 15	0	6.2	25	2	15	17
15 - 30	15	8.5	36	12.8		
0 - 10	0	6.2	25	2		
10 - 20	10			17.8	10	22
20 - 30	20		36	7.8		

